

IN THE CLAIMS

Claims 1-7 (cancelled)

8 (Currently amended). A An isolated DNA molecule coding for a polypeptide tolerogen which suppresses ~~capable of modulating~~ the autoimmune response of an individual to acetylcholine receptor, comprising residues 61-76 of SEQ ID NO:2 and/or residues 184-210 of SEQ ID NO:2, wherein said polypeptide ~~being~~ is selected from the group consisting of:

(i) a polypeptide consisting of the amino acid sequence of SEQ ID NO:6;

(ii) a polypeptide consisting of the amino acid sequence of SEQ ID NO:8;

(iii) a polypeptide ~~corresponding to~~ consisting of amino acid residues 1-121 of SEQ ID NO:2;

(iv) a polypeptide ~~corresponding to~~ consisting of amino acid residues 1-146 of SEQ ID NO:6;

(v) a polypeptide ~~corresponding to~~ consisting of amino acid residues 122-210 of SEQ ID NO:2;

(vi) a polypeptide ~~as in~~ with at least 95% sequence identity to a polypeptide of (i) to (v) or the polypeptide Hα1-210 of SEQ ID NO:2 in which one or more amino acid residues have been added, deleted or substituted by other amino acid residues in a manner that the resulting polypeptide is capable of suppressing and which suppresses experimental myasthenia gravis in animal models;

(vii) a fragment of a polypeptide as in (i), (ii), (iv), (v), or to (vi), which fragment ~~is capable of suppressing~~ suppresses experimental myasthenia gravis in animal models; and

~~(viii) a polypeptide comprising two or more fragments as in (vii) fused together with or without a spacer;~~

~~(ix) a polypeptide, or a fragment as defined in (i)-(viii)(vii), or the polypeptide H_α1-210 of SEQ ID NO:2, fused to an additional polypeptide at its N- and/or C-termini; and~~

~~(x) soluble forms, denatured forms, chemical derivatives and salts of a polypeptide or a fragment as defined in (i)-(ix).~~

9(Currently amended). A An isolated DNA molecule according to claim 8, ~~being~~ which is selected from the group consisting of:

(i) a DNA molecule comprising the nucleotide sequence of SEQ ID NO:5;

(ii) a DNA molecule comprising the nucleotide sequence of SEQ ID NO:7;

(iii) a DNA molecule comprising the nucleotide ~~corresponding~~ to sequence of nucleotides 1 to 363 of SEQ ID NO:1;

(iv) a DNA molecule comprising the nucleotide sequence ~~corresponding of~~ nucleotides 1 to 438 of SEQ ID NO:5;

(v) a DNA molecule comprising the nucleotide sequence of nucleotides 364 to 630 of SEQ ID NO:1;

(vi) a DNA molecules which are is degenerate, as a result of the genetic code, to ~~the~~ any DNA sequences of (i) to (v) and which

codes for a polypeptide coded for by any one of the DNA sequences of (i) to (v);

~~(vii) a DNA molecule having a coding nucleotide sequence which is at least 70% homologous to any one of the DNA sequences of (i) to (vi) or to the DNA sequence, SEQ ID NO:1, coding for Hα1-210;~~

~~—————(viii) a DNA molecule as in (i) to (v) or the DNA molecule coding for the amino acid sequence SEQ ID NO:2 of Hα1-210, in which one or more codons has been added, replaced or deleted in a manner that the polypeptide coded for by said sequence is capable of suppressing experimental myasthenia gravis in animal models;~~

~~—————(ix) a fragment of a DNA molecule as in (i)-(viii)-(vi), which fragment codes for a polypeptide capable of suppressing that suppresses experimental myasthenia gravis in animal models;~~

~~(x) a DNA molecule comprising two or more fragments of (ix) fused together with or without a spacer, and which codes for a polypeptide capable of suppressing experimental myasthenia gravis in animal models; and~~

~~(xi)-(viii) a DNA molecule comprising a nucleic acid sequence as defined in (i)-(x)-(vii) or the DNA sequence, SEQ ID NO:1, coding for Hα1-210, fused to additional coding DNA sequences at its 3' and/or 5' end.~~

10(Currently amended). A An isolated DNA molecule according to claim 9, which comprises the nucleotide sequence of SEQ ID NO:5.

11(Currently amended). A An isolated DNA molecule according to claim 9, which comprises the nucleotide sequence of SEQ ID NO:7.

12(Currently amended). A An isolated DNA molecule according to claim 9, which comprises the nucleotide sequence corresponding to nucleotides 1 to 363 of SEQ ID NO:1.

13(Currently amended). A An isolated DNA molecule according to claim 9, which comprises the nucleotide sequence of nucleotides 1 to 438 of SEQ ID NO:5.

14(Currently amended). A An isolated DNA molecule according to claim 9, which comprises the nucleotide sequence of nucleotides 364 to 630 of SEQ ID NO:1.

15(Currently amended). A An isolated DNA molecule according to claim 9, wherein said additional coding sequence in (xi) codes for glutathione S-transferase (GST) and is fused at the 5' end of said nucleic acid sequence.

16(Currently amended). A replicable expression ~~vehicle~~ vector comprising a DNA molecule according to claim 8.

17(Currently amended). A An isolated prokaryotic or isolated eukaryotic host cell transformed with the replicable expression ~~vehicle~~ vector of claim 16.

18(Currently amended). A process for preparing a polypeptide ~~capable of modulating~~ which suppresses the autoimmune response of an individual to acetylcholine receptor, comprising:

(i) culturing a host cell of claim 17 under conditions promoting expression; and

(ii) isolating the expressed polypeptide.

19(Original). A process according to claim 18, wherein the expressed polypeptide is a fused polypeptide.

Claims 20-22 (cancelled)

23(New). An isolated DNA according to claim 8, wherein said polypeptide consists of the amino acid sequence of SEQ ID NO:6.

24(New). An isolated DNA according to claim 8 wherein said polypeptide consists of the amino acid sequence of SEQ ID NO:8.

25(New). An isolated DNA according to claim 8, wherein said polypeptide consists of amino acid residues 1-121 of SEQ ID NO:2.

26(New). An isolated DNA according to claim 8, wherein said polypeptide consists of amino acid residues 1-146 of SEQ ID NO:6.

27(New). An isolated DNA according to claim 8, wherein said polypeptide consists of amino acid residues 122-210 of SEQ ID NO:2.

28(New). An isolated DNA according to claim 8, wherein said polypeptide is (vi).

29(New). An isolated DNA according to claim 8, wherein said polypeptide is (vii).

30(New). An isolated DNA according to claim 8, wherein said polypeptide is (viii).

31

31(New). An isolated DNA according to claim 30, wherein said additional polypeptide is glutathione S-transferase.
